Flaws Seen in Markets for Utilities

By DAVID CAY JOHNSTON

A growing chorus of large industrial power users, municipal utilities and consumer groups say there is a reason the price of electricity has not fallen since the federal government opened the heavily regulated utility industry to competition a decade ago. The new markets, they argue, do not work right.

They point to a variety of reasons.

For one thing, when electricity producers offer to supply power for use the next day, utilities pay everyone the highest price accepted. One study in Texas, where electricity bills have been rising sharply, found that because of this auction system, consumers pay a lot more than they would have under the old system where the state regulated prices.

They also contend that producers can withhold power or limit production, with little risk of penalty, even when demand is at its highest, meaning prices soar.

“Shutting down a power plant in July is like the mall closing on the weekend before Christmas, but in July last year, 20 percent of generating capacity was shut down in California,” said Robert McCullough, an economist whose Oregon consulting business is advising some of those contending in lawsuits that prices are being manipulated.

The government agency that oversees the electricity market — the Federal Energy Regulatory Commission — set the rules before allowing market prices for electricity to replace regulated prices. A coalition of large industrial companies filed a complaint in September, arguing that the energy commission had failed to ensure proper competition and that it had stymied efforts by others to investigate allegations of improper conduct by withholding some of the data it collects.

“The ‘markets’ that are rolling off the commission’s production line are not fit for their public purpose,” wrote Robert A. Weishaar Jr., the lawyer for the industrial companies.

The commission dismisses the critics, saying that where it has determined that a market for electricity exists, the prices in that market are assumed to be “just and reasonable,” the standard set in federal law. The commission’s rules seek to curb monopoly power, but not oligopoly power, in which a few firms control the market. The commission says that anyone manipulating markets will be discovered either by the monitors in each regional market, by competitors or utilities that buy power, by the commission or even by the public.

Allowing producers of electricity to compete for utility customers should assure the lowest possible price, the commission says.

But the opposite has sometimes been true.

For eight hours last May, for example, the price of a megawatt of power in New England leaped from about $50 to almost $1,000. The region's electricity exchange attributes the spike to congested transmission lines, but has kept the identities of the high bidders secret.

Its own studies say that the exchange's rules make it possible to inflate prices artificially during periods of high demand and that at least one producer has manipulated prices in the past, though its identity was not disclosed.

Officials of other exchanges all said they had strict rules to ensure that capacity is not withheld from the market to inflate prices artificially.

But critics of the current system have found ammunition in a study at Carnegie Mellon University by Sarosh N. Talukdar, who used computer models to simulate a market in which 10 utilities bought electricity and 10 producers sold it.

In that experiment, the buyers and sellers learned to manipulate the price within 100 rounds of bidding, capturing from 50 percent to 90 percent of the prices an unregulated monopoly would have charged. Instead of falling, prices soared.

Earlier experiments at Cornell University and George Mason University found the same thing, with simulated trading by students, professors and even members of Congress.

Such high prices suggest collusion, which is illegal in real markets, but collusion was impossible in Professor Talukdar's experiments because the trades were made by simple computer programs, not humans.

"My studies show it is easy to learn from the signals given by others how to get the benefits of colluding without breaking the law," Professor Talukdar said.

"Economists have this faith in markets, this blind faith that markets are always a good thing," the professor said, "but the design of markets matters a great deal and the design must be verified to see if it really works as a free market."

Professor Frank A. Wolak, a Stanford University economist who favors competitive pricing, said the current mix of markets for wholesale power and regulated utilities to deliver them cannot produce the benefits of competition. And he warned that "even small flaws in the design of markets can cause enormous harm to consumers in very little time."

Why have prices not fallen in the electricity market, when prices dropped sharply after competition was introduced in other previously regulated industries?

Rising fuel costs are one major reason. But the electricity market also turns out to be different in some fundamental ways from other kinds of markets. Efforts to induce competition, the critics say, have failed to properly take that into account.

In the markets for everything from stocks and commodities to real estate, airline trips and trucking services, for example, buyers always have the option to walk away from a deal — whether the purchase be company shares, frozen pork bellies, houses, plane tickets or space in a tractor-trailer.

But many utilities in about half the states, including New York, California, Connecticut, Illinois, Maryland and Texas, must buy power every day — usually because they were encouraged or forced by regulators to sell their own generating plants and no longer produce electricity themselves.

And every utility must buy power at some point, to meet peak demand on hot summer days.

Unlike the stock market, where vast numbers of strangers buy and sell, the electricity markets involve a relative handful of buyers and sellers. In New Jersey, for example, just 10 generators won bids this year to supply a third of the state's base load of power for the next three years at prices 55 percent higher than the previous year's three-year bid.

Similarly, California has 1,400 power plants, but ownership of those plants is so concentrated that just six generating companies in that state can set an artificially high price of electricity virtually all the time, research by Carnegie Mellon University shows.

Moreover, in many markets some buyers and sellers are related, a corporate parent owning generating plants that sell to a sister utility. Often the bidders are brokers, including Wall Street investment houses like Goldman Sachs and Morgan Stanley and that arrangement hides the identity of the real power generators.

Trades also repeat each day, which means that those that generate power learn from not just what the weather report says about demand for power, but from the trading patterns of their competitors in producing power and the utilities that buy it.

Another important aspect is secrecy. Individual stock investors can make sure they got a fair price by checking the prices paid just before and after their trade. But the Federal Energy Regulatory Commission and the electricity exchanges stamp many trading records confidential.

The federal commission's spokesman, like those for several of the exchanges on which electricity is bought and sold, said that market monitors employed by the electricity exchanges ensure the integrity of the trades. But utility customers have challenged whether the monitors are blind to price rigging and errors.

Another factor is the very nature of electricity, which must be produced, transmitted and consumed in an instant. Car makers can cut production when vehicles do not sell. Investors who hold too much of a particular stock can sell it in blocks over time to get the best price. But electricity cannot be held in inventory.

Finally, the electricity market appears to be particularly balanced on a fine edge. The Chadbourne Park law firm, in a newsletter for investors in electricity generating stations, cautioned that tiny changes in generating capacity could make them rich or wipe them out. It concluded that having 2 percent more generating capacity than a market needed to meet demand would mean “very low electricity prices,” while a 2 percent shortage of electricity would cause “significant price spikes,” which means outsize profits for power plant owners.